

THE CONTRIBUTIONS OF PHYSICIANS TO ENTOMOLOGY IN THE UNITED STATES FROM 1723 TO 1865

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Few entomologists are aware of the contributions made by physicians to the early science of entomology in this country. These range from a few observations by some to numerous and outstanding contributions by others. In fact, a few physicians apparently were more interested in entomology than in medicine. Some of the physicians were quite versatile. In addition to their interest in entomology, such subjects as botany, silk culture, herpetology, ichthyology, helminthology, paleontology, conchology, geology, biography, the history of science and natural history in general engaged their attention.

Approximately 40 physicians each contributed from one to many papers to the literature of entomology from 1723 to 1865. These papers dealt with the Hessian fly, the silkworm, honeybees, the periodical cicada, blister beetles, fruit and vegetable insects, nettling hairs, animal parasites, the tent caterpillar, mimicry, cankerworms, the light of fireflies, insect anatomy, life history and control studies, descriptions of new species of Lepidoptera, Neuroptera and Coleoptera, lists of insects, insect larvæ in the human body, the development of aphids, the medicinal qualities of insects, the fauna of the intestines of insects, and entomological history and bibliography.

Of the 40 physicians, 17 were residents of Pennsylvania, 7 of Massachusetts, 5 of New York and the remaining 11 were scattered among 10 other states in the east, middle west and California. Pennsylvania, and Philadelphia in particular, was the center of entomologically inclined physicians. Here were established the American Philosophical Society and the Academy of Natural Sciences of Philadelphia.

In the accompanying list will be found the names of the physicians and brief mention of their activities. Only American physicians, or those who resided in this country are included.

Much more extended accounts of these men may be found in the books referred to under "references."

Apparently the first physician to write of insects in the United States was Dr. John Brickell, who stressed the supposed medicinal importance of certain species in his book "The Natural History of North Carolina," published in Dublin in 1723. Brickell's work was based mainly upon John Lawson's "Journal of 1000 miles. . . . With a Description of North Carolina," published in London in 1700. The end of the period under consideration is closed by Dr. George H. Horn, who was just getting under way, with the publication of 5 systematic papers on the Coleoptera between 1860 and 1865. Dr. Horn's extensive descriptive work continued for many years after 1865. Of the 38 physicians who lived and wrote between the time of Brickell and Horn, the outstanding ones are the well known Thaddeus William Harris, John Lawrence LeConte, Asa Fitch, and A. S. Packard, Jr., of whom numerous biographical accounts are available.

Even after 1865 and up to the present time, entomology has continued to be enriched by the activities of physicians who preferred entomology to medicine, or a combination of both.

PHYSICIANS WHO CONTRIBUTED TO ENTOMOLOGY
1723-1865

SAMUEL AKERLY. New York. In 1817, wrote a paper on the Hessian fly and suggested various remedies.

BENJAMIN SMITH BARTON. 1766-1815. Pennsylvania. One of America's early leading botanists. Wrote upon the introduction of the honeybee in America; poisonous honey; insects injuring crops, particularly fruits and vegetables; silk-worms, etc.

HANS HERMAN BEHR. 1818-1904. California. Published on California Lepidoptera. Had an extensive collection of Lepidoptera. Described new species in this order.

EDWARD L. BLASCHKE. Colonial physician employed by the Russian American Company in Alaska and California. Collected many insects about Ross and Sitka.

JOHN BRICKELL. North Carolina. Author of a work entitled "The Natural History of North Carolina." This was published in Dublin first in 1723. Some 8 or 9 pages are devoted

to such insects as bees, silkworms, butterflies, moths, grasshoppers, cicadas, fireflies, crickets, hog-lice, ladybird beetles, ants, blister beetles, roaches, sand flies, wasps, mosquitoes, fleas, lice, etc., the accounts being mostly descriptive of their habits. In addition, the supposed medicinal qualities of the insects are stressed.

Brickell's work was based mainly upon John Lawson's "Journal of 1000 Miles! Travel Among the Indians, with a Description of North Carolina," London, 1700. John Brickell settled at Edentown, N. C., in the early half of the 18th century.

WALDO IRVING BURNETT. 1828-1854. Massachusetts. Wrote upon the hibernation of insects (1848); parasites of animals (1850-51); seventeen-year cicada (1851); the fauna of the intestines of insects (1853); development of aphids (1856).

ISAAC CHAPMAN. Pennsylvania. In the "Medical Repository" of 1798 Dr. Chapman wrote about the medicinal qualities of a species of blister beetle, and described it. This is one of the earliest insect descriptions published in America.

BRACKENRIDGE CLEMENS. 1830-1867. Pennsylvania. Author of a synopsis of North American Sphingidæ (1859). Described 200 new species of microlepidoptera, in 17 papers published in the Proceedings of the Academy of Natural Sciences of Philadelphia, with notes on larval habits.

BENJAMIN HORNOR COATES. 1797-1881. Pennsylvania. Was interested in the Hessian fly. Wrote a biographical sketch of Thomas Say. A widely informed physician who was closely identified with the development of Philadelphia medicine.

FRANK COWAN. 1844-1905. Pennsylvania. Author of "Curious Facts in the History of Insects," published in 1865. This consists mainly of entomological folklore.

JOHN B. DAVIDGE. Maryland. Author of a paper published in 1807 on "Experiments and Observations on the Caterpillar which Infests the Lombardy Poplar," in which he takes exception to the work of another physician who claimed that the poplar caterpillar bit a cat, causing its death.

NATHANIEL DWIGHT. 1770-1831. Massachusetts, Connecticut, Rhode Island. Wrote about blister beetles.

ASA FITCH. 1809–1879. New York. Famous for his classic reports upon the “Noxious, Beneficial and Other Insects of the State of New York,” 14 in all, published between 1855 and 1872. Dr. Fitch was an untiring student of insects injurious to horticulture and agriculture and in addition described some new species.

WILLIAM GIBBONS. 1781–1845. Delaware. Was interested in silkworm culture. Wrote in 1834 on the tent caterpillar and the periodical cicada.

CHARLES GIRARD. 1822–1895. A naturalized Frenchman, interested specifically in herpetology, ichthyology and helminthology. Described 4 species of Orthoptera and compiled the first annual scientific bibliography issued in 1852 by the Smithsonian Institution.

AUGUSTUS A. GOULD. 1805–1866. Massachusetts. Conchologist, contributor to medical science and collaborator with Prof. Agassiz in “Principles of Zoology” (1846); published on the Cicindelidæ in 1834. This is a synopsis of the group in Massachusetts.

HERMANN AUGUST HAGEN. 1817–1893. Massachusetts. A notable student of the Neuroptera of North and South America. Author of “Bibliotheca Entomologica.” Published on the Neuroptera, color mimicry of insects, psocids, the genus *Colias*, etc.

AMOS HAMLIN. 1766–1843. New York. Wrote about horse-bots.

THADDEUS WILLIAM HARRIS. 1795–1856. Massachusetts. An outstanding figure in entomological and natural history circles during the first half of the 19th century. Described new species, studied life histories of insects. His “Catalogue of Insects of Massachusetts” (1831) was the first attempt in this country to enumerate and classify American insects on a large scale. His “Report on the Insects of Massachusetts Injurious to Vegetation” (1841) was without a rival for many years. All his leisure time was given to the study of natural history.

C. A. HELMUTH. Illinois. Described new species of Mordellidæ in 1865.

SAMUEL PRESCOTT HILDRETH. 1783–1863. Ohio. Published on the periodical cicada in 1830 and 1847.

- GEORGE H. HORN. 1840-1897. Pennsylvania. A born systematist. Wrote 265 papers from 1860 to 1896, in which he described 1,582 new species of Coleoptera. His descriptions are models of clarity. He worked with Dr. LeConte.
- CHARLES T. JACKSON. 1805-1880. Massachusetts. Discovered that a yellow dye could be made from the cotton "red-bug." Account published in 1858.
- JOHN LAWRENCE LECONTE. 1825-1883. Pennsylvania. On outstanding and remarkable student whose extensive systematic work in the Coleoptera had a great influence on entomological progress, especially his analytical studies which were spread over a wide field.
- JOSEPH LEIDY. 1823-1891. Pennsylvania. Famous paleontologist and comparative anatomist. Published (1847) on the history and anatomy of *Belostoma*; described (1849) nematoid entozoa infesting insects; reported upon insects injurious to shade trees in 1862.
- F. E. MELSHEIMER. 1783-1873. Pennsylvania. A country physician who described new species of Coleoptera in 1846-1848. Wrote a "Catalogue of the Described Coleoptera of the United States."
- SAMUEL L. MITCHELL. 1764-1831. New York. One of the pioneers in the promotion of natural sciences and medicine in America. Wrote upon cankerworms and their control and also upon *Melolontha* infested with *Cordyceps*.
- SAMUEL G. MORTON. 1798-1851. Pennsylvania. A successful Philadelphia physician and one-time president of the Academy of Natural Sciences. Was interested in the periodical cicada and reported his observations to the Academy in 1843.
- JOSIAH CLARK NOTT. 1804-1873. Alabama. In 1848, he wrote a paper on yellow fever and thought that its cause existed in "some form of insect life."
- A. S. PACKARD, JR. 1831-1905. Maine, Massachusetts, Rhode Island. Celebrated investigator and teacher. Author of 579 entomological contributions including books. These deal with evolutionary processes, classification, descriptions of new species, economic application of entomological knowledge. Was particularly interested in the Lepidoptera. Author of many well-known monographs.

- W. S. W. RUSCHENBERGER. 1807–1895. Pennsylvania. Wrote “Elements of Entomology,” published in 1845.
- JOHN T. SHARPLESS. Pennsylvania. Published on the silkworm in 1826 and was greatly interested in the possibilities of silk culture in America.
- HENRY SHIMER. 1828–1895. Pennsylvania. Described new species of *Chrysops*, *Aleyrodes*, *Cecidomyia*, plant lice and mites and wrote upon gall insects from 1865 on.
- DAVID HUMPHREYS STORER. 1804–1891. Massachusetts. Interested in entomology and gave popular lectures on insects.
- JAMES TILTON. 1745–1822. Pennsylvania. Wrote about the plum curculio. Recommended the boring of holes in infested trees and filling them with mercurial ointment or spirits of turpentine, for destroying insects generally.
- ISAAC PIM TRIMBLE. 1804–1890. Pennsylvania, New York, New Jersey. Author of “A Treatise on Insect Enemies of Fruits and Fruit Trees” (1865). Entomologist to the American Institute and to the State Agricultural Society of New Jersey. Wrote nine other papers on insects. Was a keen observer.
- JEREMIAH VAN RENSSELAER. 1793–1871. New York. Published in 1828 a paper on larvæ in the human body.
- THOMAS WALMSLEY. 1781–1806. Pennsylvania. Was interested in the light of fireflies and conducted experiments by immersing fireflies in various liquids and gases.
- HUGH WILLIAMSON. New Jersey. Described the mayfly “*Ephoron leukon*” and noted some of its habits. This was published in 1802.
- JAMES WOODHOUSE. Pennsylvania. Dr. Woodhouse, a physician and professor of chemistry in the University of Pennsylvania from 1795 to 1809 wrote “Of American Blistering Flies” in the Medical Repository (1800), and his descriptions are among the earliest printed in America.

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